

IGENITY Insider



AUGUST 2006

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Welcome to the August issue of the *IGENITY® Insider* e-newsletter. It's written to help address the many educational needs of the dairy cattle industry that are related to DNA and animal profiling technology. This issue shares recent updates about IGENITY, examines the balancing act of milk production versus productive life and longevity for dairy cattle as well as details the upcoming educational seminar "Skinny Cows Aren't So Sexy," sponsored by IGENITY, at World Dairy Expo in October. We hope you find this issue to be informative and we look forward to sending you other *IGENITY Insider* e-newsletters and educational tools in the future.

Please pass this newsletter on to others who could benefit from the information. If this issue was forwarded to you and you'd like to receive your own copy in the future, please click igenity@bader-rutter.com to subscribe.

The Balancing Act — Production vs. Productive Life

Producing more milk is a priority for dairy producers, yet the stress placed on a cow to continuously perform at the highest level of milk production can dramatically shorten her time in the herd, leading to early culling, costly replacements and, ultimately, lost profits. [\(more\)](#)

Skinny Cows Aren't So Sexy



Dairy producers are invited to learn why skinny cows aren't so sexy. Dr. Chad Dechow, assistant professor at Penn State University, will explore how genetic selection for milk yield has been very successful, but reproductive efficiency and overall cow health have suffered. [\(more\)](#)

Buyers Demand More Information

Information is power. Buyers at the Summit at Kingsmill Sale in Durham, N.C., took this adage one step further: the more information available, the better the purchase price. At nearly two times the sale average, 16 animals profiled with IGENITY® sold for an impressive \$20,093 average compared with the sale average of \$11,500 on 98 head. [\(more\)](#)

Ask the Expert — Chuck Sattler, Vice President of Genetic Programs for Select Sires



Q. I received my IGENITY® profile results and my highest producing cow in the herd scored a low (1) for milk production. What does this mean and how is it possible?

A. Many things can affect the production level of an individual cow. Approximately 30% of the production differences we see in cows are caused by genetics, with the other 70% caused by environmental effects, including nutrition, season of calving, mastitis and others. An IGENITY profile allows producers to take a direct look at some of the genetic differences between cows. [\(more\)](#)

Get the Inside Track on IGENITY at World Dairy Expo

IGENITY customers — visit the Merial (EH 1601) or Select Sires (EH4001) booth at World Dairy Expo

(October 3-7, 2006) to receive a personal genetic consultation based on your animals' IGENITY® profiles, and receive a gift compliments of IGENITY. If you are not yet an IGENITY customer, stop by and talk with an IGENITY representative to learn how to gain inside information about your cattle through the IGENITY profile. See you in Madison.

Recruiting and Hiring Strategies of the Best Managers



Attracting and retaining good employees can make or break a dairy business. It is one of the most challenging responsibilities facing dairy managers today. Dairy producers are invited to learn the recruiting and hiring strategies of the best managers. ([more](#))



IGENITY
4707 Innovation Drive, Suite 101
Lincoln, NE 68521
1-877-IGENITY

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The Balancing Act — Production vs. Productive Life

Producing more milk is a priority for dairy producers, yet the stress placed on a cow to continuously perform at the highest level of milk production can dramatically shorten her time in the herd, leading to early culling, costly replacements and, ultimately, lost profits.

It is frustrating when the hardest-working cows in the herd are the same cows that have continual health and reproductive problems.

Intense selection for high milk production, over many generations, has meant an unintentional selection for high dairy form, and an increase in metritis, ketosis, lameness, mastitis and days open.¹⁻⁷

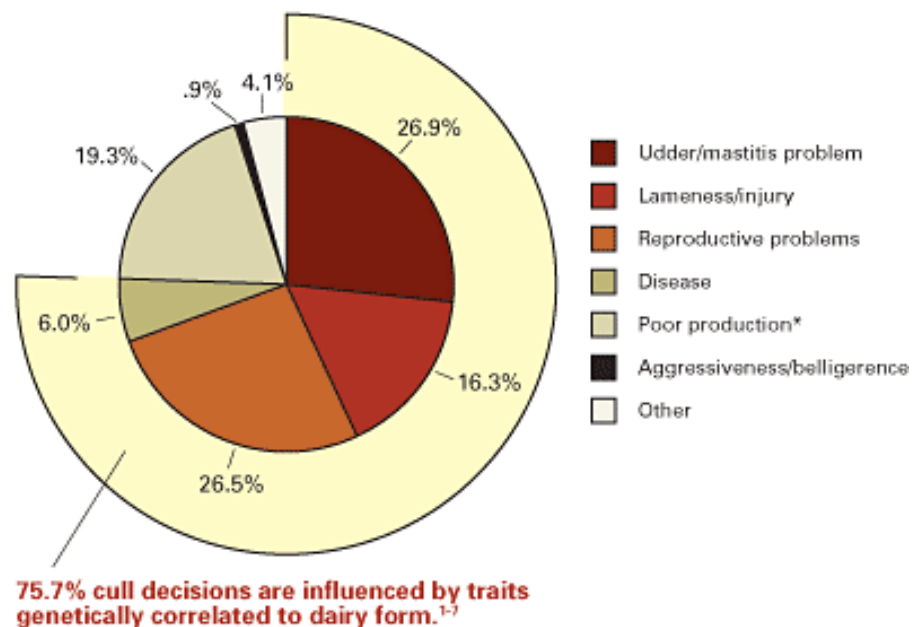
Unfortunately, this is an all too common problem among today's high-producing, high dairy form cows.

The skinny on dairy form — a leading indicator of productive life

Dairy form is one of the leading indicators of productive life. In addition, dairy form is closely correlated to body condition score, another strong indicator of disease frequency and productive life.

Data from the United States Department of Agriculture Animal Improvement Programs Laboratory (AIPL) shows that more than 75% of producers reported culling decisions are influenced by traits genetically correlated to dairy form. This alarming statistic emphasizes that lower dairy form is more ideal for longer-lived cows and that selection pressure for increased milk production has brought with it higher dairy form cows.¹⁻⁷

Percent of Dairy Cows Culled, by Producer-reported Reason for Culling⁹



*Unrelated to the other listed problems.

Intense selection for high milk production has meant an unintentional selection for high dairy form, and an increase in metritis, ketosis, lameness, mastitis and days open.¹⁻⁷

Comprehensive profile adds confidence

It's difficult for a dairy producer to select for lower dairy form if it means sacrificing milk yield and taking milk out of the bulk tank.

But now producers have an option. A comprehensive IGENITY[®] profile can help producers balance selection for milk production and dairy form. Armed with the inside information gained from an IGENITY profile, producers can make more confident selection decisions for dairy form without sacrificing milk production.⁸

"Progressive producers need to use all the information they have available to achieve herd goals faster," says Jennifer Daniels, associate product manager of IGENITY. "This will only help to make their operations more efficient and profitable over time."

The analysis for dairy form as part of an IGENITY profile provides information about an animal's genetic makeup for dairy form. This information adds to that of predicted transmitting ability (PTA) and visual observation. More importantly, the genetic markers analyzed in an IGENITY profile for dairy form have no significant association with milk production.⁸

"Producers can select for cows that are capable of sustaining high levels of milk production," Daniels says. "More importantly, they are able to do it with less longevity-reducing metabolic stress and reproductive problems."

Research and application

The research associated with the dairy form analysis of the IGENITY profile was conducted jointly by Merial, a global animal health leader and Select Sires, North America's largest AI company. The data is based on records of more than 1,000 sires and demonstrates that the dairy form markers included in the IGENITY profile are highly indicative of dairy form.¹⁰

Animals receive an IGENITY profile score from 1 to 10 for dairy form. Animals with a high score (10) will have a genetic propensity for a lower dairy form score, which is associated with an increase in productive life. Conversely, animals with a low score (1) will have a genetic tendency for a higher dairy form score.

"The inside information gained from the IGENITY profile can be used to make breeding, selection, marketing and management decisions to achieve a desirable balance between production and productive life," Daniels says.

IGENITY profile results for dairy form also can be useful when selecting bulls, since accurate productive life is recorded so late in a sire's life. This information should be used in combination with traditional selection tools like PTAs to supplement the productive life genetic evaluation — improving the reliability of the evaluation.

Not just for dairy form, but for balanced and improved decisions

The comprehensive IGENITY profile provides inside information on many economically important traits. Dairy form is just one example. The comprehensive IGENITY profile evaluates genetic potential for:

- **Longevity** — balance dairy form with productive life
- **Milk Yield** — improve milk production without sacrificing fertility
- **Milk Components** — identify protein and fat potential
- **Coat Color** — identify red genes in red or black cattle
- **Genetic Recessives** — CVM plus BLAD and DUMPS
- **Cheese Production** — beta lactoglobulin plus beta and kappa caseins

"With the IGENITY profile, producers can complement existing selection and management tools to balance traits of importance to their operation — like production and productive life," Daniels says. "The IGENITY profile does not replace, but enhances the value of PTAs and other genetic and phenotypic information — to help producers make better-informed and balanced selection, management and marketing decisions."

Inside information you can use

Every dairy operation is different with unique challenges and goals. Regardless of the goal of the dairy, comprehensive DNA profiles allow producers to choose the most important traits for their operation and apply advanced information to everyday decisions.

Producers have to first consider the goals they have for their operation. Is it industry-leading genetics or high-value heifers, or perhaps it is simply more profitable production? Whatever the goal, comprehensive DNA profiling through IGENITY provides the inside information to help producers succeed through:

- More savvy breeding decisions
- More confident heifer selection (buying or selling)
- More informed selection of donor dams and recipients
- More knowledgeable voluntary culling decisions

For a complete list of DNA products available through the IGENITY profile, click http://us.igenity.com/dairy/igenity_dairy_products.html

¹Dechow CD, et al. Correlations Among Body Condition Scores from Various Sources, Dairy Form, and Cow Health from the United States and Denmark. *Journal of Dairy Science*. 2004;87: 3526-3533.

² Dechow CD, et al. Body Condition Scores and Dairy Form Evaluations as Indicators of Days Open in U. S. Holsteins. *Journal of Dairy Science*. 2004;87: 3534-3541.

³ Hansen M, et al. Genetic Parameters of Dairy Character, Protein Yield, Clinical Mastitis, and Other Diseases in the Danish Holstein Cattle. *Journal of Dairy Science*. 2002;85: 445-452.

⁴Lassen J, et al. Genetic Relationship Between Body Condition Score, Dairy Character, Mastitis, and Diseases Other than Mastitis in First-Parity Danish Holstein Cows. *Journal of Dairy Science*. 2003;86: 3730-3735.

⁵ Rogers GW, et al. Genetic Correlations Among Protein Yield, Productive Life, and Type Traits from the United States and Diseases Other than Mastitis from Denmark and Sweden. *Journal of Dairy Science*. 1999;82: 1331-1338.

⁶Tsuruta S, et al. Changing Definition of Productive Life in U.S. Holsteins: Effect on Genetic Correlations. *Journal of Dairy Science*. 2005;88: 1156-1165.

⁷Weigel KA, et al. Use of Linear Type and Production Data to Supplement Early Predicted Transmitting Abilities for Productive Life. *Journal of Dairy Science*. 1998;81: 2040-2044.

⁸Data on file at Merial (IGENITY DuraMAX™ analysis done at University of Missouri).

⁹Data on file at USDA AIPL.

¹⁰Data on file at Merial.

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Skinny Cows Aren't So Sexy

Dr. Chad Dechow, Assistant Professor, Penn State University



Dairy producers are invited to learn why skinny cows aren't so sexy. Dr. Chad Dechow, assistant professor at Penn State University, will explore how genetic selection for milk yield has been very successful, but reproductive efficiency and overall cow health have suffered.

Dr. Dechow will discuss the relationships among dairyness, body condition, reproduction and cow health at this educational seminar, sponsored by IGENITY®, at 1 p.m. Friday, Oct. 6, in the Mendota 2 Room of the Alliant Energy Center Exhibition Hall at World Dairy Expo in Madison, Wis. His research has shown that as milk production increases, the ability to maintain body condition decreases, affecting reproduction and overall cow health. Dr. Dechow will highlight how selection against dairy form and higher body condition scores can help maintain adequate cow fitness levels while milk yields increase. Born and raised on a dairy in New York, Dr. Dechow has been a part of 4-H Club, FFA, Junior Holsteins and the Cornell Dairy Judging Team.

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Recruiting and Hiring Strategies of the Best Managers

Don Tyler, Owner of Tyler and Associates



area.

Attracting and retaining good employees can make or break a dairy business. It is one of the most challenging responsibilities facing dairy managers today. Dairy producers are invited to learn the recruiting and hiring strategies of the best managers. Don Tyler, owner of Tyler and Associates, will draw from his experiences with dairy, beef and swine producers to provide the specific, practical and creative techniques that the top managers use to recruit, interview and hire the best candidates available in their local

Tyler will share from his 16 years of management experience proven recruiting and hiring strategies at this educational seminar, sponsored by Merial, at 11 a.m. Friday, Oct. 6, in the Mendota 2 Room of the Alliant Energy Center Exhibition Hall at World Dairy Expo in Madison, Wis. Recently, Tyler has written the first book of its kind "The Complete Guide to Managing Agricultural Employees" along with several other training and development resources.

Born and raised in northwest Indiana on a diversified family farm, Tyler has been involved in every area of this grain, hay, beef, sheep and swine operation.

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Information is power. Buyers at the Summit at Kingsmill Sale in Durham, N.C., took this adage one step further: the more information available, the better the purchase price. At nearly two times the sale average, 16 animals profiled with IGENITY® sold for an impressive \$20,093 average compared with the sale average of \$11,500 on 98 head.

When the gavel dropped on Brigeen Morty Rhonda — consigned by Brigeen Farms, Turner, Maine — she became the high-selling animal of the day at \$90,000 — profiled with IGENITY — selling to Marlin Bontrager of Kalona, Iowa.

“Our vision at Kingsmill is to produce industry-leading genetics, and we will use all available tools and technology to help us achieve our goals faster,” says Mitch Hockett, partner at Kingsmill Farm II and assistant professor at North Carolina State University. “We have been watching the development of DNA technology with enthusiasm and have confidence that it can help — both breeders and buyers — make better-informed selection, management and marketing decisions throughout an animal’s lifetime.”

In addition to Brigeen Morty Rhonda, the day’s top-selling animals profiled with IGENITY included Kingsmill Storm Adora-ET, a daughter of Tri-Day Ashlyn-ET, which brought \$80,000 when sold to the Adora Syndicate of Beau Treuboff, Phoenix, Ariz.; Michael and Wilda Eade, Suwanee, Ga.; and Kingsmill Farm II, Durham, N.C.

Rounding out the top three sellers profiled with IGENITY was a choice female from Red-Vision, Addella-Red-ET, at \$51,000, to Rick and Dan Reuter of Peosta, Iowa.

“The inside information provided from an IGENITY profile can help producers make selection, mating and marketing decisions with greater confidence,” says Jennifer Daniels, associate product manager of IGENITY. “IGENITY profiles provide the most comprehensive DNA analysis available in the industry — both for genetic recessive diseases like BLAD or CVM and a growing list of traits of economic importance.”

A comprehensive IGENITY profile includes DNA analysis for a wide range of traits of economic importance, each with specific applications, including:

- **Longevity** — allows selection for a healthy balance of dairy form and productive life
- **Milk Yield** — allows selection for improved milk or fat yield, without sacrificing fertility
- **Milk Components** — allows selection for protein and fat production potential
- **Coat Color** — allows selection for or against red genes in black or red cattle
- **Genetic Recessives** — allows for selection to avoid CVM, BLAD and DUMPS
- **Cheese Production Proteins** — identifies genetic potential related to beta lactoglobulin, kappa casein and beta casein

“Progressive producers need to use all the information they have available to achieve herd goals faster,” Daniels says. “This will help make their operations more efficient and profitable over time.” The 16 animals profiled with IGENITY at the Summit at Kingsmill Sale grossed \$301,400. To obtain a comprehensive IGENITY profile, dairy producers simply supply an animal’s tissue sample — a blood sample or a nasal swab — for analysis and receive genotype information via fax, e-mail or hard copy. Producers who want to learn more about IGENITY tests and services can visit www.igenity.com, call (877) IGENITY (443-6489), or talk to a Merial or Select Sires sales representative.

Formed in 2003, Kingsmill Farm II, LLC, is a partnership between David Falk, Sharon Norton and Mitch Hockett. With approximately 900 milking cows and 80 ET donor dams, the farm focuses on elite, industry-leading, registered Holstein genetics. Kingsmill Farm II strives to bring production and type together in the animals it owns, breeds and markets. By taking the best genetics available and using bulls that are not only in demand, but provide corrective matings, it produces highly sought-after offspring. Kingsmill Farm II is involved in all parts of the dairy industry, from state-of-the-art technology and research to industry-leading production and show-winning type.

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A. Many things can affect the production level of an individual cow. Approximately 30% of the production differences we see in cows are caused by genetics, with the other 70% caused by environmental effects, including nutrition, season of calving, mastitis and others. An IGENITY profile allows producers to take a direct look at some of the genetic differences between cows.

Achieving high production from cows with a low (1) IGENITY profile for milk production is possible, but it means this level of production may be due in large part to advantageous environmental conditions. Cows with low IGENITY profiles accompanied by low PTAs, even though they may have good performance, are less likely to be able to transmit these production advantages to their offspring.

IGENITY profiles can work hand in hand with PTAs and lactation records to help producers make better-informed selection, management and marketing decisions. This is equally true, whether using an IGENITY profile to achieve your goals for production, components or productive life.